

REMARKS

Reconsideration and allowance are respectfully requested in light of the above amendments and the following remarks.

Claims 1 and 5-10 are pending. New claims 8-10 are supported at least at specification page 8, first paragraph. No new matter has been entered.

Claim 1 stands rejected under 35 USC § 102 as allegedly anticipated by at least one of JP 9-283180, JP 11-111342, JP 2000-113877, JP 2000-12014, JP 2000-12015, JP 11-343109, and JP 4-132174. However, as claim 1 has been amended to incorporate the features presented by (now cancelled) claim 4, Applicants respectfully submit that these rejections are now moot.

Moreover, as each of the pending claims are fully supported by the priority document (an English-language translation thereof is provided as an Attachment hereto), Applicants respectfully submit that the rejections based on JP '877, JP '014, '015, and JP '109 have been overcome.

Claims 3, 4 and 7 stand rejected under 35 USC § 103(a) as allegedly being unpatentable over JP 4-132174. The Office Action asserts JP '174 teaches each feature recited by these claims, except for "the weight percentages of the sodium, potassium, or calcium compounds as recited in claims 3 and 4, or that the negative electrode is made by mixing the sodium, potassium, or

calcium compound and the lithium compound and forming a slurry, as recited by claim 7." However, the Office Action proposes that such steps are obvious.

The Office Action maintains that the positive electrode of the reference comprises manganese oxide (abstract), which becomes a lithium manganese composite oxide during cycling of the battery.

In contrast, present claim 1 recites, "a lithium manganese composite oxide which contains lithium when synthesizing the oxide."

The positive electrode material of JP '174 is distinct from the presently claimed positive electrode material, which contains lithium from the beginning. It is an object of the present invention to solve the problem which is inherent to the lithium manganese composite oxide (see page 3, line 20 to page 4, line 6 of the present specification). JP '174 neither teaches nor suggests the presently recited features.

The charging final voltage of JP '174 was 3.5V in the example. According to the disclosure, it is assumed that  $\text{MnO}_2$  does not have a reversible capacity at 3.5V or more. In contrast, the positive electrode material presented at page 8, lines 20-23 of the present specification, have reversible capacities at 3.5V or more.

With respect to method claim 7, Applicants respectfully submit that, as discussed in the present specification, the deterioration of battery performance is observed concerning the battery using lithium manganese composite oxides as the positive electrode active material. The reason is the dissolution of manganese ions from the lithium manganese composite oxides.

Although the solutions were proposed by the reference (English text, page 3, lines 2-12), the procedure is complex and costly (English text, page 3, line 20 to page 4, line 1).

The same is also observed in the inventions disclosed by the other cited references. For example, in order to attach calcium compounds on the surface of carbon of the negative electrode active material, an artificial graphite (diameter of 6  $\mu\text{m}$ ) was immersed in an aqueous solution in which calcium carbonate was dissolved in hydrofluoric acid, concentrated the mixture, dried at 110°C, then dried in a vacuum at 200°C for 16 hours (JP '342, Working Example, paragraph 0021).

According to the process of JP '180, complex oxide is utilized. Therefore, the procedure becomes more complex. See synthesis example 1 of JP '180, paragraph 0039.

According to JP '174, lithium and carbon is mixed with a molar ratio of 1:1, reacted at 1200°C under a dry argon atmosphere, cooled, pulverized, then mixed with carbonaceous

pitch coke and binder. Compared to the process recited by present claim 7, this method is also complex.

Thus, as none of the cited references teach or suggest the presently recited method, reconsideration is respectfully requested.

Claims 5 and 6 stand rejected under 35 USC § 103(a) as allegedly being unpatentable over JP '180 in view of Iwata et al. (U.S. Patent No. 6,168,888 or Wang et al. (U.S. Patent No. 5,532,084)). The Office Action asserts JP '180 teaches each feature of the rejected claims, except for lithium manganese oxide is a cubic material possessing the properties of claim 5, and that the lithium manganese oxide is a rhombic system material possessing the properties of claim 6, for which purpose Iwata et al. and Wang et al. are respectively cited.

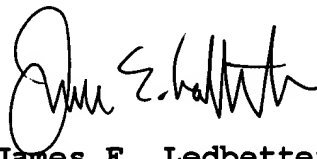
Applicants reiterate that claim 1 (from which claims 5 and 6 depend) has been amended to recite the features originally presented by claim 4 (i.e., a claim not subject to this rejection). Thus, because neither JP '180, Iwata et al. nor Wang et al. teach or suggest the features of previous claim 4, Applicants respectfully present that this rejection is now moot.

In view of the above, it is respectfully submitted that all objections and rejections are overcome. Thus, Notice of Allowance is respectfully requested. If any additional fee is

necessary to make this amendment complete, it may be charged to the undersigned's deposit account number 19-4375.

If any issues remain which may be best resolved through a telephone communication, the examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,



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